Please amend the claims as follows:

1. (Currently Amended) A gait-locomotor apparatus for support gait, stance and climb, and transitions between lie-sit-stance positions of a person with a locomotion disability, ~~that is wore on a disabled user, said gait-locomotor~~ the apparatus comprising:

an exoskeleton bracing ~~systeme~~ comprising jointed support arms for coupling to the trunk of the body and lower limbs of the person ~~having a plurality of jointed segments, said brace adapted to fit the lower body of the disabled user~~;

propulsion means coupled to the exoskeleton bracing system ~~adapted to~~ , for providinge relative movement ~~between said plurality of jointed segments~~ to parts of the exoskeleton bracing system;

a plurality of sensors for sensing tilt of the trunk and angular position of parts of exoskeleton bracing system ~~at least one sensor adapted to monitor the angular position of at least one of said plurality of jointed segments~~;

a control unit for receiving information from said plurality of sensors, and for identifying the relative position of parts of the exoskeleton bracing system, the tilt of the person with respect to the ground and gait phases or other phases of modes of operation, a current mode of operation being manually set by the person by an interface into the control unit, processing the information in accordance with the current mode of operation and activating and controlling the propulsion system in accordance with a set of predefined movement modes or patterns ~~adapted to supervise said propulsion means and to receive feedback information from said at least one sensor so as to facilitate said brace to perform walking patterns~~;

whereby the apparatus establishes a man-machine interface relation with the person with the locomotion disability, and aids the person in acquiring locomotion as desired. ~~whereby the disabled user that wears said gait-locomotor apparatus is able to steadily stand in a stance position supported by said brace, and is able to walk in various walking patterns using said control unit.~~

2. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein ~~said~~ the exoskeleton bracing systeme comprises a torso brace and a pelvis brace adapted to fit the ~~user's~~ trunk of the person, two thigh braces adapted to fit the ~~user's~~ thighs of the person, and two leg braces adapted to fit the ~~user's~~ legs and feet of the person.

3. (Currently amended)The gait-locomotor apparatus as claimed in Claim 1, wherein stabilizing shoes are provided and are attached to the exoskeleton bracing systeme, said stabilizing shoes are adapted to increase lateral stability.

4. The gait-locomotor apparatus as claimed in Claim 3, wherein said stabilizing shoes are adapted to maintain a side lean.

A1 Cont'd

5. The gait-locomotor apparatus as claimed in Claim 3, wherein said stabilizing shoes are provided with a rounded bottom.

6. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said exoskeleton bracing systeme is provided with two side crutches adapted to provide direct support to the ~~user~~person.

7. The gait-locomotor apparatus as claimed in Claim 6, wherein said two side crutches are retractable so as to facilitate height adjustments.

8. (Currently amended) The gait-locomotor apparatus as claimed in Claim 7, wherein at least one of said two side crutches comprises at least two members that are telescopically connected so as to adjust the length of the side crutch ~~length~~.

9. (Currently amended) The gait-locomotor apparatus as claimed in Claim 6, wherein each of said two side crutches is provided with a handle that facilitates ~~the user to~~ grasping of the crutches.

10. The gait-locomotor apparatus as claimed in Claim 6, wherein said two side crutches are provided with a motorizes system that is adapted to actuate the side

crutches and wherein said motorized system is electrically connected to said control unit.

11. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system ~~are~~ is ~~positioned~~ coupled to ~~in or proximal to~~ articulations between the jointed segments of said exoskeleton ~~brace~~bracing system.

12. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system ~~are~~ comprises linear motors.

13. (Currently amended) The gait-locomotor apparatus as claimed in Claim 12, wherein two of the motors are adjacent to ~~the~~a ~~user's~~ hip of the person.

R1 Cont

14. (Currently amended) The gait-locomotor apparatus as claimed in Claim 12, wherein two of the motors are adjacent to the ~~user's~~ knees of the person.

15. (Currently amended) The gait-locomotor apparatus as claimed in Claim ~~1~~412, wherein at least one of the linear motors is provided with a stator provided with a forcer, said stator is attached to one of the jointed ~~segments~~support arms, and wherein said forcer is coupled to a lever that is attached to ~~the~~ an adjoining ~~segment~~support arm.

16. (Currently amended) The gait-locomotor apparatus as claimed in Claim 15, wherein said lever has~~ving~~ a laterally protruding portion, and wherein said forcer is coupled to said portion.

17. (Currently amended) The gait-locomotor apparatus as claimed in Claim 15, wherein said stator is pivotally connected to the jointed ~~segment~~support arm.

18. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system ~~is~~ comprises a thrust force motor having a linear motor provided with gearing ability, said linear motor is attached to one of the jointed ~~segments~~support arms, and wherein a forcer of said linear motor is connected

to a belt having two ends, said belt circles about a wheel and is further coupled to a lever attached to ~~the~~ an adjoining articulated ~~segment~~support arm.

19. The gait-locomotor apparatus as claimed in Claim 18, wherein said lever is provided with two opposite lateral protrusions, and wherein each of the two ends of said belt is connected to one of the lateral protrusions of said lever.

20. (Currently amended) The gait-locomotor apparatus as claimed in Claim 18, wherein said lever is a cogwheel attached in an articulation between jointed ~~segments~~support arms.

21. (Currently amended) The gait-locomotion apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system comprises a thrust force motor in which a linear motor having gearing ability is attached to a jointed ~~segment~~ support arm between two articulations, and wherein a stator of said linear motor is provided with two adjacent wheels, said stator is provided with a first forcer coupled to a belt, said belt circles about one of the wheels and circles a cogwheel that is attached adjacent to one of the articulations, and wherein said stator is provided with a second forcer coupled to another belt that circles about the other wheel and circles another cogwheel that is attached adjacent to the other articulation.

22. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system comprises an air muscle actuator.

23. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said propulsion ~~means~~ system comprises a rotary motor.

24. (Currently amended) The gait-locomotor apparatus as claimed in Claim 23, wherein said rotary motor is positioned in an articulation between ~~the~~ jointed ~~segments~~ support arms of said ~~brace~~bracing system.

25. (Currently amended) The gait-locomotor apparatus as claimed in Claim 24, further comprising a plurality of interacting cogwheels, at least one of the cogwheels

is connected by a movable belt to another wheel so as to provide relative movement between the jointed ~~segments~~support arms.

26. The gait-locomotor apparatus as claimed in Claim 25, wherein said two interacting cogwheels are concentric.

27. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein ~~said~~ at least one of the sensors is a tilt sensor.

28. (Currently amended) The gait-locomotor apparatus as claimed in Claim 27, wherein a goniometer is attached to articulations between ~~the~~ jointed ~~segments~~ support arms of said bracing systeme in order to measure the articulation angle.

29. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein ~~said~~ at least one of the sensors is an acceleration sensor.

30. (Currently amended) The gait-locomotor apparatus as claimed in Claim 29, wherein ~~said~~ at least one of the sensors is an accelerometer.

31. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said ~~feedback~~ information ~~is~~ comprises angles of articulation between ~~the~~ jointed ~~segments~~ support arms of said bracing systeme.

32. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said ~~feedback~~ information ~~is~~ comprises accelerations of ~~the user's~~ body parts of the person.

33. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said ~~feedback~~ information ~~is~~ comprises angular velocities.

34. The gait-locomotor apparatus as claimed in Claim 1, wherein a processor is incorporated in said control unit, said processor adapted to execute motion control algorithms.

35. (Currently amended) The gait-locomotor apparatus as claimed in Claim 34, wherein said algorithms comprises commands dictating the angles between the jointed ~~segments~~ support arms and the position of the jointed ~~segments~~ support arms so as to perform predetermined modes of operation on said bracing systeme.

36. The gait-locomotor apparatus as claimed in Claim 35, wherein said modes of operation are selected from the group consisting of standing mode, gait mode, climbing mode, descending mode, lie-sit transition mode, sit-stance transition mode, stance-gait transition mode, training mode, learning mode or a combination thereof.

37. (Currently amended) The gait-locomotor apparatus as claimed in Claim 35, wherein at least one of said modes of operation is initiated by exceeding a threshold value in the angular position of at least one of the jointed ~~segments~~support arms.

38. (Currently amended) The gait-locomotor apparatus as claimed in Claims 36, wherein at least one of said modes of operation is initiated by receiving a signal monitored by at least one of said sensors, said signal indicating that a threshold value has been exceeded in the tilt angle of the ~~user's~~ torso of the person.

39. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said control unit is communicating with said propulsion system~~means~~ through power drivers.

40. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said control unit is communicating with a man-machine interface adapted to receive commands from the person~~user~~.

41. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein ~~said~~ at least one of the sensors is communicating with said control unit through feedback interfaces.

42. The gait-locomotor apparatus as claimed in Claim 1, wherein said gait-locomotor apparatus further comprises a safety unit and a built-in test unit.

43. The gait-locomotor apparatus as claimed in Claim 42, wherein said safety unit is communicating with said control unit.

44. (Currently amended) The gait-locomotor apparatus as claimed in Claim 42, wherein said safety unit is communicating with ~~said~~ at least one of the sensors.

45. The gait-locomotor apparatus as claimed in Claim 1, wherein said gait-locomotor apparatus further comprises a power unit.

46. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein ~~said~~ at least one of the sensors provides a warning signal.

47. (Currently amended) The gait-locomotor apparatus as claimed in Claim 46 ~~or 45~~, wherein ~~a~~ the warning signal indicates the power status of the gait-locomotor apparatus~~of said battery~~.

48. (Currently amended) The gait-locomotor apparatus as claimed in Claim 46, wherein the warning signal indicates currents in said propulsion system~~means~~.

49. The gait-locomotor apparatus as claimed in Claim 1, wherein said gait-locomotor apparatus further comprises at least one temperature sensor.

50. The gait-locomotor apparatus as claimed in Claim 49, wherein said gait-locomotor apparatus further comprises overheat protection.

51. (Currently amended) The gait-locomotor apparatus as claimed in Claim 50, wherein said temperature is monitored in said propulsion ~~means~~system.

52. The gait-locomotor apparatus as claimed in Claim 50, wherein said temperature is monitored in said control unit.

53. (Currently amended) The gait-locomotor apparatus as claimed in Claim 1, wherein said gait-locomotor apparatus further comprises ~~a~~ functional electrical stimulation (FES) means.

54. (Currently amended) The gait-locomotor apparatus as claimed in Claim 53~~1~~, wherein said gait-locomotor apparatus further comprises FES electrodes, said electrodes are electrically communicating with a signal generator.

55. The gait-locomotor apparatus as claimed in Claim 54, wherein said signal generator is communicating with said control unit.

56. (Currently amended) The gait-locomotor apparatus as claimed in Claim 54, wherein said control unit further comprises commands dictating an electrical signal that is transferred by the FES electrodes.

57. (Currently amended) The gait-locomotor apparatus as claimed in Claim 53, wherein said control unit further comprises command that activate the FES means.

58-61. (Cancelled)

62. (New) A gait-restoration method for facilitating gait, stance and climb, and transitions between lie-sit-stance positions of a person with a locomotion disability, the method comprising the steps of:

providing a gait-locomotor apparatus comprising:
an exoskeleton bracing system, comprising jointed support arms for coupling to the trunk of the body and lower limbs of the person;

a propulsion system coupled to the exoskeleton bracing system for providing relative movement to parts of the exoskeleton bracing system;

a plurality of sensors for sensing tilt of the trunk and angular position of parts of the exoskeleton bracing system;

a control unit having an algorithm for accomplishing:

receiving information from said plurality of sensors;

identifying the relative position of parts of the exoskeleton bracing system,;

identifying tilt and gait phases;

identifying a current mode of operation being manually set by the person via an interface into the control unit;

processing the information in accordance with the current mode of operation; and,

activating and controlling the propulsion system in accordance with a set of predefined movement modes or patterns;

setting a desired operation mode;

determining specific movement mode or pattern from the set of predefined movement modes or patterns, upon sensing a tilt of the person, the angle of the tilt and at least a first derivative of the tilt angle; and

actuating the propulsion system in accordance with the set of predefined movement modes or patterns.

63. (New) The method of claim 62, wherein the algorithm includes a gait algorithm comprising the following steps:

detecting an upper body tilt of the person, determining the angle of the tilt and at least a first derivative of the tilt angle;

computing parameters for a gait pattern, selected from the set of predefined movement modes or patterns;

initiating a forward step of a first leg of the person by actuating the propulsion system;

placing the foot of the first leg on the ground;

straightening the knee of first leg;

determining when the person reaches an upright position;

if another tilt is sensed repeating the above steps replacing the operations performed by the first leg with similar operations to be preformed by the second leg.

64. (New) The method of claim 63 wherein a stairs-climbing algorithm is incorporated.

65. (New) The method of claim 64, wherein the stairs-climbing algorithm is a climbing-up algorithm, comprising:

detecting an upper body tilt of the person, determining the angle of the tilt and at least a first derivative of the tilt angle;

computing parameters for a stairs-climbing pattern, selected from the set of predefined movement modes or patterns;

initiating a forward step of a first leg of the person by actuating the propulsion system, whereby the foot of the first leg is raised;

placing down the foot of the first leg;

straightening the knee of first leg;

determining that the person have reached an upright position;

if another tilt is sensed, repeating the above steps replacing the operations performed by the first leg with similar operations to be preformed by the second leg.

66. (New) The method of claim 64, wherein the stairs-climbing algorithm is a climbing-down algorithm, comprising:

detecting an upper body tilt of the person, determining the tilt angle and at least a first derivative of the tilt angle;

computing parameters for a stairs-climbing pattern, selected from the set of predefined movement modes or patterns;

initiating a forward step of a first leg of the person while maintaining a the first leg in a straightened posture, by actuating the propulsion system, whereby the foot of the first leg is raised, while simultaneously folding the knee of the second leg;

placing down the foot of the first leg;

determining when the person reaches an upright position;

if another tilt is sensed repeating the above steps replacing the operations performed by the first leg with similar operations to be preformed by the second leg.

67. (New) The method of claim 62 wherein a turn algorithm is incorporated comprising:

sensing an body throwing movement in a certain turn direction;

using a first leg of the person as an axis for the turn, forwarding the second leg across in the turn direction.

68. (New) The method of claim 62, wherein a transition algorithm between a lie position, a sit position, and a stance position is incorporated.